

**Table B-2.** List of Clean Water Act and ESA actions in Appendix B that are also called for in 2000 FCRPS Biological Opinion RPA.

| <b>FCRPS Project</b> | <b>Description of Action</b>   | <b>Action Type</b>          | <b>In Biological Opinion Section</b> |
|----------------------|--|-----------------------------|--------------------------------------|
|                      | <b>Dissolved Gas Actions</b>   |                             |                                      |
| Systemwide           | Development of water quality plan  | Plan                        | 9.4.2.4                              |
| Lower Granite        | Gas fast-track; spillway deflector optimization evaluation                                       | Study                       | 9.6.1.7.2                            |
| Little Goose         | Gas fast-track; spillway deflector optimization evaluation                                       | Study                       | 9.6.1.7.2                            |
| Lower Monumental     | Gas fast-track; spillway deflector optimization evaluation; fish passage efficiency and survival | Studies                     | 9.6.1.7.2                            |
| Ice Harbor           | Post-installation spillway deflector evaluations; fish passage efficiency and survival           | Studies                     | 9.6.1.7.2                            |
| McNary               | Gas fast-track; spillway deflector optimization evaluation; fish passage efficiency and survival | Studies                     | 9.6.1.7.2                            |
| John Day             | Post-installation spillway deflector evaluations, gas fast-track and fish passage efficiency     | Studies                     | 9.6.1.7.2                            |
| John Day*            | Design and implement spillway end deflector  | Design and implementation   | 9.6.1.7.2                            |
| The Dalles           | Spill and fish passage survival evaluation; gas fast-track                                       | Studies                     | 9.6.1.7.2                            |
| Bonneville           | Design/implement gas fast-track and additional spillway deflectors; fish passage efficiency      | Implementation and studies  | 9.6.1.7.2                            |
| Systemwide           | Complete system gas abatement study  | Study                       | 9.6.1.7.2                            |
| Chief Joseph         | Gas fast-track; spillway deflector design and installation                                       | Implementation              | 9.6.1.7.2                            |
| Grand Coulee         | Gas abatement study; evaluate GCL-CHJ gas abatement options                                      | Study                       | 9.6.1.7.2                            |
| Libby                | Evaluate gas abatement alternatives  | Study                       | 9.6.1.7.2                            |
| Dworshak             | Evaluate gas abatement alternatives  | Study                       | 9.6.1.7.2                            |
| Systemwide           | Total dissolved gas monitoring program   | Monitoring                  | 9.6.1.7.2                            |
| Systemwide*          | Evaluate fixed forebay TDG monitors to determine best location                                   | Study and implementation    | 9.6.1.7.2                            |
| Systemwide           | Develop system dissolved gas model   | Modeling; study             | 9.6.1.7.2                            |
| Systemwide*          | Evaluate gas entrainment divider walls at FCRPS mainstem projects                                | Study                       | 9.6.1.7.2                            |
| Lower Granite        | Prototype surface spillway bypass  | Construct prototype & study | 9.6.1.4.5, 9.6.1.7.2                 |
| John Day             | Prototype surface spillway bypass  | Construct prototype & study | 9.6.1.4.5, 9.6.1.7.2                 |

\* Action not contained in Appendix B but called for in Sec. 9 of NMFS Biological Opinion.

**Table B-2 (continued).** List of Clean Water Act and ESA actions in Appendix B that are also called for in the 2000 FCRPS Biological Opinion RPA.

| FCRPS Project                    | Description of Action  | Action Type                               | In Biological Opinion Section |
|----------------------------------|--|---|-------------------------------|
|                                  | <b>Water Temperature Actions</b>   |   |                               |
| Systemwide                       | Development of water quality plan  | Plan                                      | 9.4.2.4                       |
| Systemwide                       | Water temperature data collection/monitoring program   | Monitoring                                | 9.6.1.7.2                     |
| Systemwide                       | Develop plan to model system water temperature and operations  | Modeling; study                           | 9.6.1.7.2                     |
| Systemwide                       | Evaluate fish ladder water temps.  | Study                                     | 9.6.1.6.2                     |
| Systemwide                       | Evaluate temp effects on juvenile passage behavior and survival                                      | Study                                     | 9.6.1.7.2                     |
| Unspecified dam                  | Conduct comprehensive depth and temp investigation to identify adult passage losses                  | Study                                     | 9.6.1.6.2                     |
| Dworshak                         | DWR NFH water supply improvements to allow temp oper.  | Implementation                            | 9.6.1.2.6                     |
| Dworshak and L. Snake River dams | Water temp control operations; evaluate effects on adult passage behavior and pre-spawning mortality | Operations and studies                    | 9.6.1.2.6                     |
| McNary                           | Monitor/eval temp in juvenile fish bypass facilities & effects on fish                               | Monitor and study                         | 9.6.1.7.2                     |
| Systemwide                       | <b>Tributary Actions</b><br>Coordinate with tributary TMDLs and fund ESA-related TMDL implementation | Study and monitoring; plan implementation | 9.6.2.1                       |
| Columbia Basin Project           | Wasteway water quality monitoring and remediation plan   | Study and monitoring; plan implementation | 9.6.1.2.7                     |

**Table B-3.** List of Clean Water Act Actions in Appendix D that are not called for in the 2000 FCRPS Biological Opinion RPA.

| <b>FCRPS Project</b> | <b>Description of Action</b>  | <b>Action Type</b> | <b>In Biological Opinion Section</b> |
|----------------------|---|--------------------|--------------------------------------|
| Systemwide           | Development of Columbia/Snake River TMDLs for dissolved gas and temperature                         | Study/process      | Conservation recommendation 11.8     |
| Grand Coulee         | Long-term gas abatement alternative selection study   | Study              | Conservation recommendation 11.9     |
| Lower Granite        | Long-term gas abatement alternative selection study; side channel spillway or raised stilling basin | Study              | Conservation recommendation 11.9     |
| Little Goose         | Long-term gas abatement alternative selection study; side channel spillway or raised stilling basin | Study              | Conservation recommendation 11.9     |
| Lower Monumental     | Long-term gas abatement alternative selection study; side channel spillway or raised stilling basin | Study              | Conservation recommendation 11.9     |
| Ice Harbor           | Long-term gas abatement alternative selection study; side channel spillway or raised stilling basin | Study              | Conservation recommendation 11.9     |
| McNary               | Long-term gas abatement alternative selection study; side channel spillway or raised stilling basin | Study              | Conservation recommendation 11.9     |
| Bonneville           | Long-term gas abatement alternative selection study; baffled spillway                               | Study              | Conservation recommendation 11.9     |
| Systemwide           | Provide funding to develop tributary TMDLs  | Funding            | Conservation recommendation 11.11    |